DRAFT

Expanded Validation (EV)
Operations Plan & Operational Architecture
Handbook

Deputy Commandant for Installations and Logistics
Integrated Logistics Capabilities Center (LPI)
Headquarters Marine Corps
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Expanded Validation Operations Plan

Submission

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REFERENCES

A. ILC Program's Business Case dated 4 March 1999
B. Operational Architecture dated 20 June 02
C. ILC MAGTF Combat Service Support (CSS) Proof Of Concept (POC) Plan dated 18 April 01
D. FSMAO-1 Special Analysis-CSSE POC dated 21 June 2002
E. Supply Chain Operations Reference Model (version 5.0) dated July 2001

INTRODUCTION

1. SITUATION.

A. Background.

On 18 October 1999 the Assistant Command of the Marine Corps (ACMC) directed that CG MCCDC, "test, validate, and integrate the approved ILC recommendations". From April 2001 to May 2002 the 2d Force Service Support Group (2d FSSG) conducted a Proof Of Concept (POC) that conducted initial testing of the ILC recommendations within the Marine Air Ground Task Force (MAGTF) Combat Service Support Element (CSSE). In order to expand the success of the POC within the MAGTF, an Expanded validation (EV) will be conducted in II Marine Expeditionary Force (MEF).

This EV Operations Plan documents the roles, organizations, responsibilities, tasks, actions and events that will occur prior to, during, and after the EV. The EV will initially occur within the 6th Marine Regiment of the 2d Marine Division (2d MarDiv), and the entire 2d FSSG, II MEF, during the period June 2002-December 2004. A Plan of Action and Milestones surrounding this EV is provided as Annex (A).

The "To-Be" logistics chain Operational Architecture (OA) provides a Marine Corps-wide, integrated view of the logistics chain focused on fulfillment of the demands for products and services generated by the warfighter. It is based upon standard best practices and performance measures, and then "customized " to suit the expeditionary nature of operations across the Marine Corps logistics chain enterprise. The fundamental benefit is the ability to provide focused; responsive CSS to the MAGTF.

B. Assumptions.

1. CG 2d FSSG will organize to provide integrated logistics chain (product and service) support in accordance with the Operational Architecture (OA) work-flows, end-to-end processes, associated roles and responsibilities. Specifically CG 2d FSSG will:

   a. Establish a standing "warfighter facing" organization that will have Order Management (OM) and supported unit support CSS responsibilities as defined in the OA.
   b. Establish an organization that will have Capacity Management (CM) responsibilities as defined in the OA. This organization may have a centralized CM capability or the CM's may be decentralized.
   c. Establish a direct support CSS organization (if required in accordance with METT-TS&L) that has the role of a "forward deployed CSS (product and service) provider" in the event a supported unit within the 6th Marine Regiment, 2d Marine Division displaces from the Camp Lejeune area.

2. Adequate facilities exist to support this EV.
3. EV documentation from Deputy Commandant for Installations and Logistics DC I&L (LPC) will provide necessary policy waivers required to support this EV.
4. METT-T S&L will be considered to help determine training requirements.
5. Staffing goals will remain constant with current unit Tables of Organization (T/O's) throughout this EV. 2d FSSG will support this EV using organic resources to the maximum extent possible.
6. 2d FSSG will retain current X-Series T/O manning structure
7. 2d MarDiv funding will remain consistent with current levels throughout EV.
8. FSMAO-1 DC I&L (LX) and the Center of Naval Analysis (CNA) will provide technical expertise and assessment support during the EV.
9. 2d MarDiv will realign fiscal, as required, to support 6th marines, participation in the EV.

2. Mission.

The purpose of the Expanded Validation (EV) is to demonstrate an agile, effective, responsive, and integrated logistics support within the MAGTF. This EV focuses on the MAGTF's Ground Combat Element (GCE) and CSSE while in garrison – and to MAGTF 6 while deployed. It utilizes the concepts, end-to-end processes, and Tactics, Techniques and Procedures (TTP's) as documented in the OA.

3. Execution.

a. Commander's Intent.

1. Concept of Operations. CG, II Marine Expeditionary Force (MEF), with the sponsorship of DC I&L, will conduct an EV of the OA commencing June 2002 and culminating on or about December 2004. The EV will validate the OA process flows in support of 6th Marine Regiment, 2nd Marine Division and continue evaluation of the eight separate battalions within 2nd FSSG. The EV will consist of three phases:

a. Phase 1-Planning, Training and Baselining (June 2002-October 2002).
i. During the first phase of this EV, DC I&L (LPC-FSMAO)/LPI/LPV/LX) and the Center for Naval Analyses (CNA) will conduct the necessary base-lining activities to ensure appropriate performance measurements are defined and documented. Copy of the collection plan is provided as Annex (B). Initial planning for this EV will be based on the OA and the results learned from the CSSE

POC, which is ongoing within the 2d FSSG, II MEF.

ii. Part of the initial planning for the EV will include the identification of specific tasks, timelines, responsibilities, resource requirements, and conduct an initial risk assessment. The HQMC Concept of Operations (ConOps) and 2d FSSG Logistics Concept of Support for this EV will be briefed to the ILC Executive Steering Committee (ESC) and appropriate Commanding Generals within II MEF during the second phase (the execution phase) of the EV. A copy of the "OA Operators Handbook" is attached as Annex C.

b. Phase 2-Execution (Oct 2002-Dec 2003). The execution phase uses the OA process flows and TTP's. This phase begins following the analysis of the base lining effort. Base-lining's function is to determine the strengths and weaknesses of the OA integrated logistics chain.

c. Phase 3-Sustainment, Assessments and Analysis (Dec 2004).

i. Pre Assessment. An analysis/assessment report will be submitted by CNA at the conclusion of the OA base lining effort. CNA will be supported by FSMAO and LX.

ii. Mid-term/Final Assessment. An analysis/assessment report will be conducted by (FSMAO-1) at the midpoint of this assessment as well as at the conclusion of this EV. Both reports will include the definition of analytic methodologies used to reconstruct events (to date) as well as assess any test results to date. In addition, the following activities will also be addressed in the final assessment report concerning the entire assessment phase:

1) Documentation, Organization, Training, Material, Leadership, People and Facility (DOTMLPF) analysis

2) Identify follow-on implementation

3) Ability to test in deployed environment

4) The impact of a limited MEF implementation – e.g. 2d FSSG and only

an infantry Regiment in 2d MarDiv and no implementation, to date, at 2d MAW.

5) Final Assessment report due December 2003

6) ESC briefing

b. Tasks.

i. HQMC.

1. Act as the EV sponsor and ensure the EV plan meets the intent of the OA and ILC concept. (LPI)
2. Assist in designing, implementing and executing the EV plan. (LPI/LPC/LPD/LX)
3. Provide In-Process-Reviews to the ILC Executive Steering Committee (ESC). (LPI/2d FSSG/2d MarDiv)
4. Direct the performance of a Logistics Chain Management assessment (critique). Submit formal findings to the ESC. (LPI/LX/FSMAO)
5. Develop a data collection and assessment plan. Perform and supervise data collection and assessment. (LPI/LPC-FSMAO/LX/CNA)
   a. Capture T/O & T/E impacts.
   b. Provide a Monthly Status Report (MSR).
6. Assess and promulgate policy changes as required (LPC/LPD)
7. Coordinate assessment plan and capture lessons learned. (LX/LPI/LPC-FSMAO/CNA)
8. Conduct a gap analysis and identify shortfalls in IT enablers for inclusion the Global Combat Support System-Marine Corps (GCSS-MC) documentation. (LPV/LPI/LPD/FSMAO)
9. Conduct a final EV assessment based on DOTMLPF impacts. (LPV/LPI/LPD/FSMAO/CNA)
10. Provide recommendations for changes to the IT enablers supporting the request management, order management and inventory management functions of the OA. (TBD)
11. Provide essential on-site liaison at Camp Lejeune. (FSMAO-1)
12. Ensure information assurance security evaluation is conducted in conjunction with EV. (TBD)

ii. Marine Corps Combat Development Center (MCWL and TFS)

1. Assist with data collection efforts.
2. Assist with interim T/O & T/E’s.
3. Conduct Doctrine, Organization, Training, Materiel, Leadership, Education, People and

Facilities (DOTMLPF) assessment at conclusion of EV.
4. Make necessary T/O & T/E adjustments.
5. Monitor and assess potential new training/education requirements as a result of EV implementation of the ILC OA, its IT enablers and new roles and responsibilities. The purpose is to anticipate future changes to the Program Of Instructions at Marine Corps Service Support Schools. (TECOM/MCSSS)(LPC, LPI, LPV, FSMAO support as required)

iii. Material Command (Systems Command and Logistic Bases).
1. Assist with IT development and gap analysis.
2. Acquire, tailor, and field IT enablers as required.
3. Provide Automated Information Technology (AIT) modification (e.g.A2P) as required.
4. Make minimum necessary system changes, as required, to current systems in order to assess the ILC concepts being tested.
5. Provide an IT solution to complement the EV and to validate requirements for follow on Marine Corps wide IT enablers (GCSS-MC).

iv. 2nd Marine Division.
1. Assign an individual to act as the primary point of contact between 2nd MARDIV and all external agencies related to this effort.
2. Provide monthly status/update reports to HQMC (DC I/L (LPI)), CG MCCDC, and CG II MEF.
3. Identify areas requiring policy waivers and adjustments to DC I&L (LPC).
4. Draft EV implementation plans or letter of instruction (LOI) for execution of the EV as required.
5. Support data collection plan as required.
6. Identify new training and resource requirements as required.
7. Ensure necessary training/education associated with OA is provided to appropriate personnel.
8. For units participating in the EV, support and perform only “Request Management” functions as specified in the OA.

v. 2nd Force Service Support Group.
1. Act as the order manager and execute all CSS functions, associated roles and responsibilities as specified in the OA.
2. Develop the Logistics Concept of Support (garrison/deployed) and CSS EV Users Guide in consonance with the OA

3. Provide resources as necessary to fulfill the OA roles/responsilities of MAGTF Logistic Chain Manager and CSS provider (product/services) to participating units.
4. Assign liaison officer(s) to act as the primary point of contact between 2nd FSSG and external activities (e.g. HQMC, FSMAO-1, CNA, etc.)
5. Provide monthly status/update reports to HQMC (DC I&L/DC PP&O), CGMCCDC, and CG II MEF.
6. Identify areas requiring policy waivers and adjustments to DC I&L (LPC/LPI).
7. Draft EV implementation plans or LOI as required for execution of the EV.
8. Support data collection plan as required.
9. Identify new training and resource requirements.
10. Ensure necessary education associated with OA is provided to appropriate personnel.

c. Coordinating Instructions.
   i. Annex A contains a high-level timeline and Plan of Action and Milestones (POA&M) for the EV.
   ii. Annex B contains EV Data Collection Plan
   iii. Annex C contains EV OA Operators handbook

4. **Administration and Logistics** N/A

5. **Command and Signal.**

a. CMC (DC I&L) has overall cognizance for the conduct of the EV.
b. EV units Command and Control (C2) relationships remain unchanged, unless appropriate authority requests a specific exception or as required by the OA.
c. Reports. The information provided in these reports will be included where appropriate as part of the weekly/monthly status reports published to the Marine Corps senior leadership.

   i. Monthly Status Reports (MSR). Monthly In-Process Reviews (IPRs) will be conducted between DC I&L (LPI), CG II MEF (G4), CG 2d MarDiv (G4), CO 6th Mar (S4), and CG 2nd FSSG. These reviews will consist of a MSR. CG 2nd Marine Division and 2nd FSSG will submit reports to HQMC (LPI) monthly via the chain of command. The format to be utilized for that report will be provided at a later date by DC I&L (LPI).
   ii. Pre-Assessment Report (PAR). An analysis/assessment report will be provided at the conclusion of the OA base lining effort (to be conducted by FSMAO 1/LX/CNA).

iii. Mid-Term Assessment Report (MTA) At the mid point of this EV assessment, a MTA status report (conducted by FSMAO 1/LX/CNA) will be provided which will address a "quick look perspective" to date. The format to be utilized for that report will be provided at a later date.

iv. Final-Assessment Report. At the conclusion of the EV, a final report will be provided (conducted by FSMAO 1/LX/CNA) which will address the results of this POC-EV. The format to be utilized for that report will be provided at a later date.

v. Significant Event Reports. In addition to the monthly IPR's and MSR's, 2d MarDiv (G4) in conjunction with CG 2d FSSG (G3) will provide updates to DC I&L (LPI), DC PPO and CG II MEF (G4) as requested or as any significant problems arise that may impact this EV. Significant problems would include, but are not limited to, a change of scheduled events, real world contingencies, or a lack of resources that would impede the conduct of this EV.

d. Public Affairs Plan. All organizations involved with this EV are encouraged to include public affairs officers in their planning and execution activities.

Annex A

EXPANDED VALIDATION (EV)

Plan of Actions and Milestones (POA&M)

Events	Description/Location	Dates
Phase I	**Pre-Expanded Validation (EV) Activities (Planning, Training and Baselining)**	
	EV Units Identified (Division and FSSG)	June 2002
	Initial EV Planning Session@ 2d MarDiv	June 2002
	Second EV Planning Workshop I @ CLNC (Division/HQMC reps)	July 2002
	EV Planning Workshop II @ CLNC (Division/FSSG/HQMC)	Aug 2002
	Pre EV Assessment brief (OA baselining) by FSMAO 1/LX to DC I&L (LPI)	Sept 2002
	Commence/test EV OMS within 2d FSSG	Sept 2002
	Collect Workload Data DCI&L (LX)	Sept-Oct 2002
	First Year Results of ILC POC at 2nd FSSG	Nov 2002
	Brief EV Ops Plan to appropriate leadership for approval @ ILC ESC *EV Ops Plan (HQMC) *Logistics Concept of Support (2nd FSSG)	Jan 2003
	ILC EV Operations Plan published	Jan 2003
	EV Planning /Training Session workshop's @ CLNC -Div/FSSG Key Staff/personnel (OA/Log Support & RM) -Implementers (Order Management, Capacity Management, and IT enablers)	Jan-Feb 2003
	EV ConOps brief to ILC ESC, CG MFL, CG II MEF, CG 2d MARDIV and CG 2d FSSG	Jan 2003
	2d FSSG Logistics Concept of Support published	Jan/Feb 2003
	2d MarDiv (LOI) published	Feb 2003
Phase II	**Expanded Validation Execution**	
	Interim IT Enabler (COTS) fielded within II MEF	Feb 2003
	Initial Monthly IPR	Mar 2003
	Quarterly IPR	June 2003
	Quarterly IPR	Sept 2003

	Mid Term Assessment	Sep 2003
Phase III	**EV Sustainment, Assessment and Analysis Report**	Dec 2004

Annex B
Data Analysis Plan

Purpose. The Data Analysis Plan is designed to evaluate the impact of the Operational Architecture (OA) implementation on supported and supporting units participating in the II MEF ILC Expanded Validation (EV). It will also document organizational and procedure changes made in the Marine Air Ground Task Force (MAGTF) and associated performance of the supporting units.

Background. Analysis of the supported units (2d FSSG) is being completed during the ILC Proof of Concept (POC), which began during March 2001. The EV marks a shift in analytical focus from determining success of ILC initiatives to evaluating the impact of OA implementation on units supported by the FSSG. Analysis of supporting units affected by OA changes will also be included. The methodology used in this plan reflects this shift.

Overview. Annex B provides a roadmap for analyzing the Expanded Validation. It gives reasoning behind each measure, a description of each with a general formula, and general roles and responsibilities for completing the plan. It is a framework intended to flex, when variables change. It does not provide the data element level detail for how each metric will be calculated – it outlines what should be measured, not how. This will be done during the conduct of the plan and documented during each assessment.

Methodology. The plan includes five distinct steps:

1. Metric mapping
2. Metric validation
3. Data collection
4. Data and process analysis
5. Documentation

Step one was completed as part of this annex. Steps 2 through 5 are iterative. Each step will be accomplished for each subsequent analysis at times determined by the ILC Center. The Center for Naval Analysis (CNA) representative to the ILC Center will take the lead role in the EV Data Analysis. General roles and responsibilities for EV analysis are shown in Table B-1.

EV Data Analysis Steps	Lead	Supporting
1. Metric mapping	LX	LPI
2. Metric validation	LPI CNA Rep	LX, FSMAO-1
3. Data collection	LPI CNA Rep	FSMAO-1, LX
4. Data and process analysis	LPI CNA Rep	FSMAO-1, LX
5. Document results/findings.	LPI CNA Rep	LX, FSMAO-1

Table B-1. General responsibilities for EV analysis

Mapping the EV Metrics Scorecard. The EV will show how implementing OA process changes impact the six attributes of the OA: reliability, responsiveness, flexibility, readiness, assets and expense. The plan uses the Score Card (SC) metric hierarchy, when applicable and achievable. Figure B-1 provides a view of the proposed USMC Balanced Scorecard developed and published in the ILC OA. When the more detailed OA metrics are not applicable or do not address key OA initiatives within the EV, they are either changed, or are not considered. Not all metrics in the initial set presented in this annex will be used for analysis early in the EV. As data collection becomes available through introduction of the ILC EV IT solution, the affected metrics will be included in follow-on analysis. Metrics were mapped from the Proposed USMC Balanced Scorecard to a set of EV scorecard metrics by first identifying the expected effect of ILC implementation initiatives on the six attributes. This hierarchy is explained in the following section.

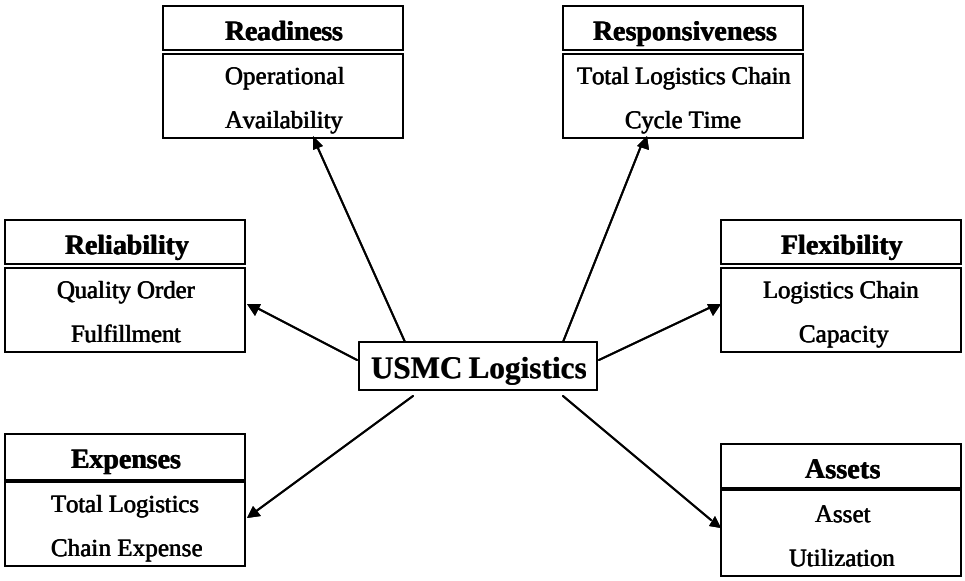


Figure B-1. Proposed USMC Balanced Scorecard.

Information Flow within the Order Process. This plan commonly refers to the terms: request, order, repair order, supply order (requisition), service order, and shipment. Figure B-2 shows how these terms relate within the order process. An understanding of these terms is necessary throughout the plan.

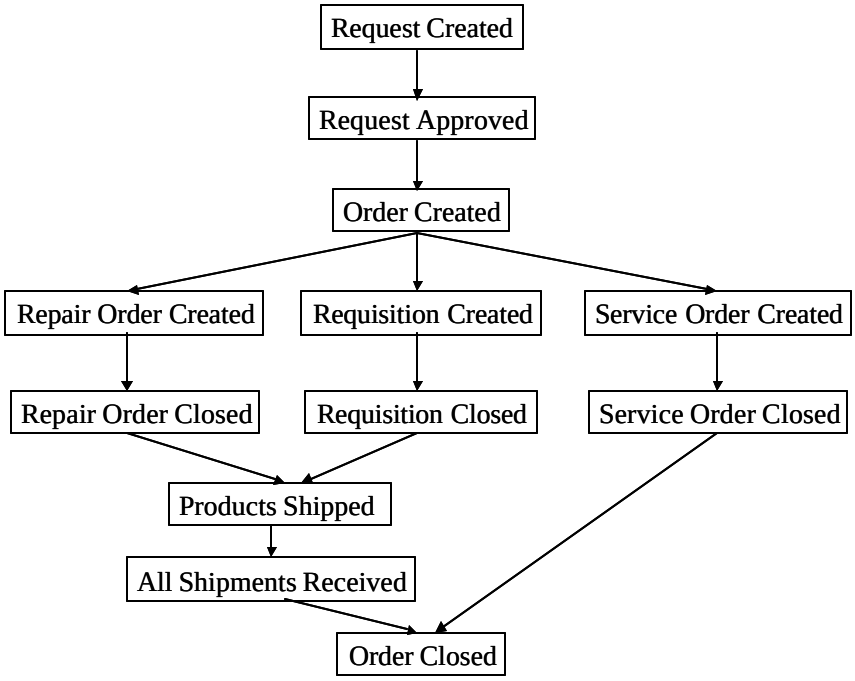
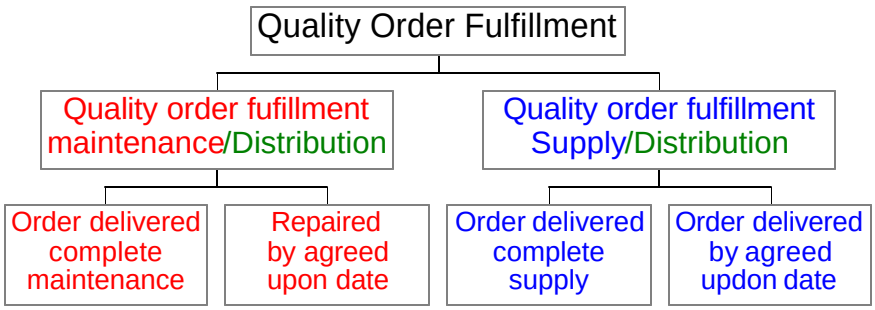


Figure B-2. Information Flow within the Order Process

1. **Reliability**. Logistics chain reliability is the performance of the logistics chain in delivering the correct product, to the correct place, at the correct time, in the correct condition and packaging, in the correct quantity, with the correct documentation, to the correct customer. It is not a measure of speed, but a measure of accuracy and timeliness. The Tier 1 metric is **Quality Order Fulfillment (QOF).** The Tier 1 metric will be calculated using two Tier 2 metrics: **Order Delivered by Agreed Upon Date** and **Order Delivered Complete**. "Orders" will be characterized as either a repair order or a supply order. Quality Order Fulfillment is calculated as a weighted average using the following formula:

Quality Order Fulfillment =

$$\frac{[\#\ \text{Repair Orders} \times \%\text{QOF (Maintenance)}] + [\#\ \text{Requisitions} \times \%\text{QOF (Supply)}]}{(\#\ \text{Repair Orders}) + (\#\ \text{Requisitions})}$$



***QOF is dependent upon supported unit feedback. The supported unit will ultimately determine the quality of the order.

1.1. Moving 2nd echelon maintenance to the intermediate level and implementing the distribution concept will improve Quality Order Fulfillment - Maintenance. This is not a SC metric, but is necessary to compute in order to achieve overall QOF.

% of Repair Orders (Repaired Satisfactorily AND by the Agreed Upon Date)

*** This metric looks at each repair order and checks both requirements. The two metrics below are calculated by determining how many times each condition was completed, regardless of the other.

1.1.1. **Order Delivered Complete**. This Tier 2 metric measures how often the end item was returned to the supported unit with all corrective maintenance actions completed satisfactorily. It is the number of times end items were returned to the supported unit with corrective maintenance (CM) actions completed satisfactorily.

$$\frac{\text{\# Orders Repaired Satisfactorily}}{\text{\# Repair Orders}}$$

1.1.2. **Order Delivered By Agreed Upon Date**. This Tier 2 metric measures how often the end item was returned to the supported unit by an agreed upon date. That date is the Required Delivery Date (RDD) when specified. If no RDD is specified, then the agreed upon date is the associated UMMIPS standard. This date may also be negotiated between the supported and supporting units. However, a negotiated date/time will only be used when the information technology is able to capture it accurately.

$$\frac{\text{\# Repair Orders Delivered by Agreed Upon Date}}{\text{\# Repair Orders}}$$

1.2. Supply function consolidation and implementing the distribution concept will improve **Quality Order Fulfillment - Supply**. This is not a SC metric, but is necessary to compute in order to achieve overall QOF.

% of Shipments (Delivered Complete AND by the Agree Upon Date)

1.2.1. **Order Delivered Complete**. This Tier 2 metric measures how often shipments are delivered to the supported unit in the quantities requested, in the proper condition, with the correct documentation. It is the number of orders delivered complete, divided by the total number of orders.

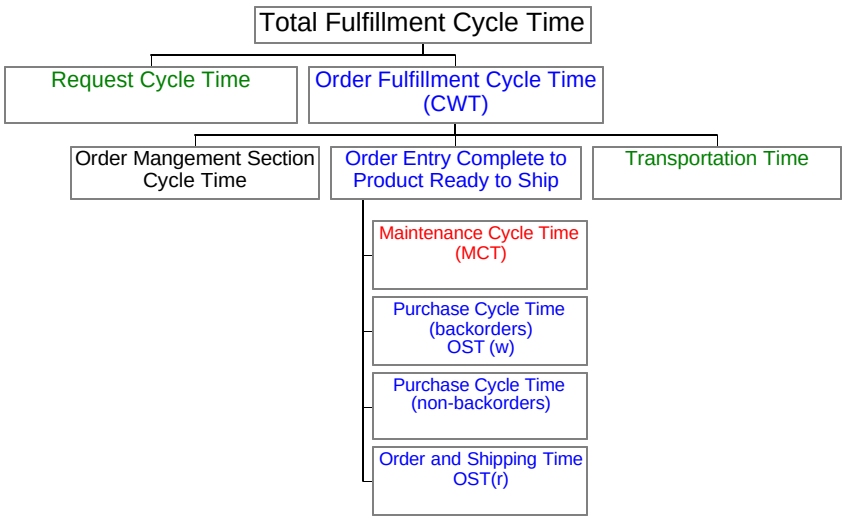
$$\frac{\text{\# Orders Delivered Complete}}{\text{\# Orders}}$$

***Computation of this metric will depend on a feedback/ discrepancy mechanism for the supported unit. An order will be considered complete, unless the supported unit notes discrepancies.

1.2.2. **Order Delivered By Agreed Upon Date**. This Tier 2 metric measures how often the shipment was delivered to the supported unit by the agreed upon date. That date is the Required Delivery Date (RDD) when specified. If no RDD is specified, then the agreed upon date is the associated UMMIPS standard. This date may be a negotiated date as described in 1.1.2.

$$\frac{\text{\# Orders Delivered By Agreed Upon Date}}{\text{\# Orders}}$$

2. **Responsiveness**. **Total Fulfillment Cycle Time** is a Tier 1 metric that measures the speed at which the logistics chain provides products to supported units. This metric includes two of seven OA SC Tier 2 metrics: **Request Cycle Time** and **Order Fulfillment Cycle Time**. The other five Tier 2 metrics are not a focus of the EV. **Order Fulfillment Cycle Time includes three Tier 3 metrics: Order Management Section Cycle Time, Order Entry Complete to Product Ready to Ship and Transportation Time**. Order Entry Complete to Product Ready to Ship considers all repair orders and requisitions. For the purposes of the EV, this plan will calculate three different instances: **Maintenance Cycle Time** for repair orders, **Purchase Cycle Time** for requisitions that are not in-stock, and **Order and Shipping Time** for requisitions that are in-stock. The relationship between all of the above is described below.



Total Fulfillment Cycle Time = (**Request Cycle Time**) +
(**Order Fulfillment Cycle Time**)

*** Total Fulfillment Cycle Time will not include Purchase Cycle Time or Order and Shipping Time for requisitions related to Repair Orders.

2.1. All four ILC initiatives will contribute to faster Order Fulfillment Cycle Time.

Order Fulfillment Cycle Time =
(**Order Management Section Cycle Time**)
(**Order Entry Complete to Product Ready to Ship**)
+(**Transportation Time**)

2.1.1. Implementing Commercial-off-the-Shelf (COTS) Logistics Information Technology (LIT) will improve **Order Management Section Cycle Time**. This metric captures the amount of time elapsed from when a request is approved at the supported unit until a requisition or repair order is created.

Requisition or Repair Order Created Date/Time –
Request Approved Date/Time

2.1.2. Moving 2nd echelon of maintenance to the intermediate level and supply function consolidation will improve **Order Entry Complete to Product Ready to Ship**. There are three possible cases for defining this metric, depending on the type of order:

Order Entry Complete to Product Ready to Ship = **Maintenance Cycle Time** (for repair)
-or-
Order Entry Complete to Product Ready to Ship = **Purchase Cycle Time**
-or-
Order Entry Complete to Product Ready to Ship = **Order and Shipping Time**

2.1.2.1. Moving 2nd echelon of maintenance to the intermediate level will improve **Maintenance Cycle Time (MCT)**. This Tier 3 metric is a cycle time that begins when the corrective maintenance repair order is created, and ends when the end item is ready to send back to the supported unit. The OA calls this metric Order Entry Complete to Service Completion Time. It's renamed to capture repair impact on Order Fulfillment Cycle Time.

Date Repair Complete – Date Repair Order Created

2.1.2.2. Moving 2nd echelon of maintenance to the intermediate level will improve **Time to Repair (TTR).**

This Tier 2 metric measures the amount of time an end item spent in the maintenance facility for CM, and is not awaiting parts. It is the time between when the first corrective maintenance task is opened and last corrective maintenance task is closed, minus Supply Response Time (defined in 4.1.a). This metric is not aggregated into Order Fulfillment Cycle Time. It is included here to describe the responsiveness related to maintenance.

[Date Last CM Task Closed – Date First CM Task Opened] – SRT

*** This metric doesn't include maintenance occurring after the first part was ordered, and before the last part was received.

2.1.2.3. Supply function consolidation will improve **Purchase Cycle Time**. This metric measures the requisition fulfillment cycle time for all requisitions that are not in-stock when the order is received, and must be sourced through commercial or governmental agencies.

Date Requisition Ready To Ship – Date Requisition Created

2.1.2.3.1. **Purchase Cycle Time – Backorders** is commonly referred to as OST(w). This metric is used when an item is requested that the Marine Corps stocks, but is not in stock.

2.1.2.3.2. **Purchase Cycle Time – Non-Backorders** occurs when an item is requested that the Marine Corps does not stock, and must be fulfilled through alternative sources.

2.1.2.4. Supply function consolidation will improve **Order and Shipping Time (OST**). This Tier 3 metric is called "Order Entry Complete to Product Ready to Ship" within the OA. It is renamed for the EV. Order and Shipping Time, also known as OST(retail), is the requisition fulfillment cycle time for requisitions that are in-stock when the order was received. This metric will be calculated for all products in supply classes (I-V, VII-IX).

Date Requisition Receipted – Date Requisition Created

2.1.2.5. Supply function consolidation will improve **Supply Response Time (SRT).** This Tier 2 metric measures the amount of time maintenance waited for supply support. It begins when the first part was ordered, and ends when the last part was received. The measure will span across all corrective maintenance tasks within the WON.

Date Last Part Received – Date First Part Ordered

*** In most cases, there will be maintenance occurring during this period, especially in cases when there are multiple corrective maintenance tasks opened at the same time.
*** SRT is not aggregated into Total Fulfillment Cycle Time. It is included here because it is a measure of responsiveness. One observation of SRT can span across several requisitions and therefore is not a component of Order Entry Complete to Product Ready to Ship. SRT is used later to compute Operational Availability (A_o) and Availability Due to Supply.

2.1.3. The distribution center concept will improve **Transportation Time**. This Tier 3 metric measures the time between when the product is ready for shipment until the time that the supported unit receives it.

Date/Time of Delivery – Date/Time of Ready to Ship

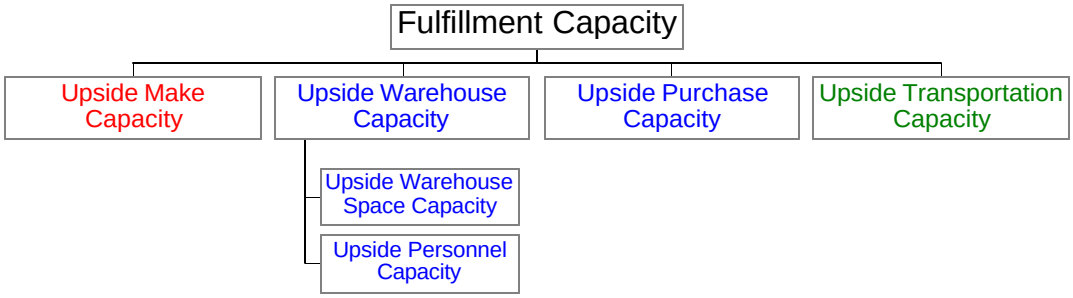
2.1.3.1. **Distribution and Administration Response Time (DART).** As previously stated in the Operational Availability definition, it is the portion of end-item downtime *not attributable* to Time to Repair and Supply Response Time.

Downtime – ((TTR) + (SRT))

2.2. Implementing Commercial-off-the-Shelf (COTS) Logistics Information Technology (LIT) will improve **Request Cycle Time**. This Tier 2 metric measures any time that elapsed prior to the approval of the request.

Request Approved Date/Time – Date/Time Request

3. **Flexibility**. Flexibility metrics measure *logistics capacity* or how well the Marine Corps Logistics Chain can respond to sudden fluctuations in supported unit demand. It is focused on s*upporting unit* resources. Capacity is the maximum amount of demand the supporting unit can meet through repair, product sourcing, or service. Flexibility is expected to improve during the EV due to better allocation of repair capacity, an improved ability to source supplies, and an improved ability to provide service. The OA Tier 2 metric **Fulfillment Capacity** is the highest-level metric used to evaluate the effects of OA implementation during the EV. **Fulfillment Capacity** determines the capacity within the logistics chain that exceeds normal operating levels. It is the degree to which production, sourcing, and services can “surge” in order to meet a spike in demand due to unexpected requirements. This metric will consist of four Tier 3 metrics: **Upside Make Capacity, Upside Warehouse Capacity, Upside Purchase Capacity, and Upside Transportation Capacity**.



3.1. Moving 2nd echelon maintenance to the intermediate level will allow better allocation of repair capacity and will therefore better distribute **Upside Make Capacity**. This measures the ability of the intermediate maintenance organization to surge the maintenance effort to meet a higher demand requirement.

$$\frac{\text{Maximum Output - Output}}{\text{Maximum Output}}$$

3.2. Supply function consolidation will allow the Supporting Unit to better source supplies based on demand and will improve **Upside Warehouse Capacity**. This measures the ability of warehouse operation to surge to meet an increase in supported unit requirements. It focuses on the resources the Inventory Manager uses to regulate supplies throughout. This metric is made up of two Tier 4 measures not included in the Final OA metrics document including **Upside Warehouse Space Capacity and Upside Personnel Capacity**.

3.2.1. **Upside Warehouse Space Capacity** measures the amount of excess warehouse space available for surge warehouse operations. It is measured as a percentage using the following formula:

$$\frac{\text{Total Warehouse Space Empty}}{\text{Total Warehouse Space}}$$

3.2.2. **Upside Personnel Capacity** measures the amount of personnel time available for surge warehouse operations. It is measured as a percentage using the following formula:

$$\frac{\text{Total Hours Personnel Available for Work – Actual Work Hours}}{\text{Total Hours Personnel Available for Work}}$$

3.3. Upside Purchase Capacity. This metric measures the ability of the procurement management center to cover supported unit demand for items not held by the inventory manager.

$$\frac{\text{(\# Line Items Required (NIS))–(\# Line Items NIS but Covered by Contract)}}{\text{\# Line Items Required (Not Stocked)}}$$

3.4. The distribution center concept will better utilize transportation assets, and will therefore increase the **Upside Transportation Capacity**. It is the percentage of assets available to meet an unexpected surge in transportation demand. It is calculated as a non-weighted average using the following formula:

$$\frac{\text{Transportation Asset Hours Available} - \text{Transportation Asset Hours Used}}{\text{Transportation Asset Hours Available}}$$

***This metric assumes that an "available transportation asset" includes drivers certified to complete the specific mission.

4. **Readiness**. Equipment readiness captures how often equipment is mission ready. Traditionally, the Marine Corps used **R-Rating** as a measure of readiness. This plan will compare R-Rating with the Tier 1 metric **Operation Availability (A_o)**. This measure will be calculated using a monthly time horizon. It essentially is a measure of:

$$\frac{\text{Uptime}}{\text{Total Time}}$$

Also stated as:

$$\frac{\text{Uptime}}{\text{Uptime} + \text{Downtime}}$$

Where:

Total Time = number of days in the month multiplied by the total number of PEIs

$$(\text{Num Days in Month}) \times (\text{Total Num PEIs})$$

Downtime = cumulative number of days PEIs had corrective maintenance tasks opened.

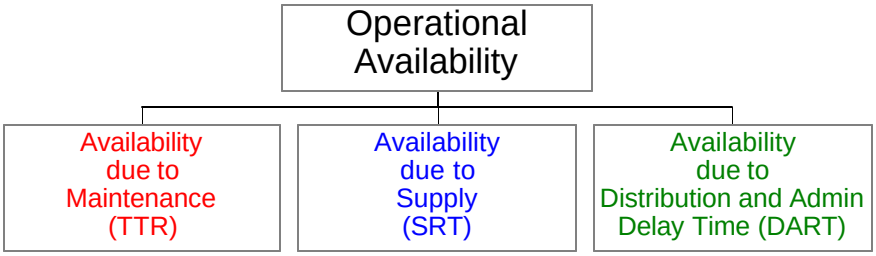
$$\text{Uptime} = \text{Total Time} - \text{Downtime}$$

In an effort to capture the effects of OA implementation during the EV this plan will use a more detailed version of the formula above. Although the definitions of the metrics listed below will be explained later, their names are listed so that the Tier 1 metric can be understood.

$$\frac{\text{Uptime}}{\text{Uptime} + (\text{TTR}) + (\text{SRT}) + \text{DART}}$$

Where:

TTR = **Time To Repair**
SRT = **Supply Response Time**
DART = **Distribution and Administration Response Time**



4.1. Supply function consolidation will improve **Operational Availability Due to Supply**. This metric assumes perfect (instantaneous) maintenance and distribution support. It evaluates supply function impact on $\mathbf{A_o}$.

$$\frac{\text{Uptime}}{\text{Uptime + SRT}}$$

4.2. Moving 2nd echelon maintenance to the intermediate level will improve **Operational Availability Due to Maintenance**. This metric assumes perfect (instantaneous) supply and distribution support. It evaluates the maintenance impact on $\mathbf{A_o}$.

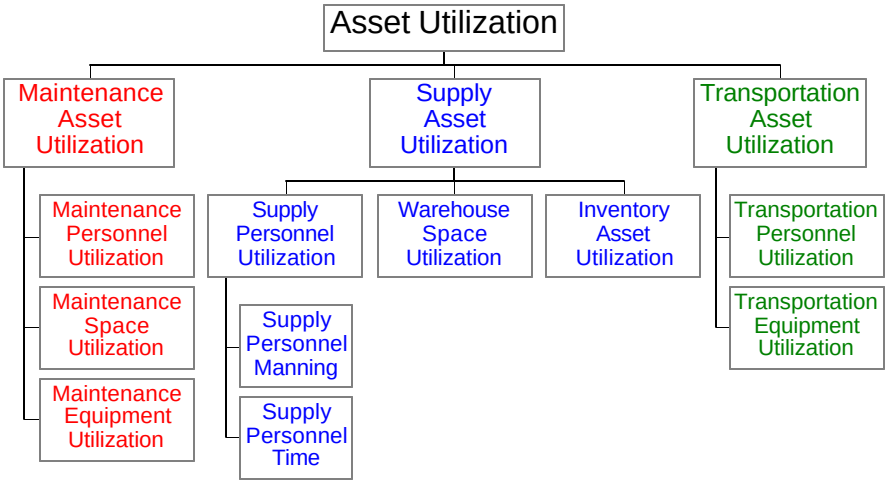
$$\frac{\text{Uptime}}{\text{Uptime + TTR}}$$

4.3. The distribution center concept and implementation of Commercial-off-the-Shelf (COTS) Logistics Information Technology (LIT) will improve **Operational Availability Due to Distribution and Administration Response Time (DART).** Currently, the Marine Corps inadequately records specific downtime for distribution and admin delay due to IT, or the lack thereof. This metric attempts to capture the combined effects of distribution and admin delays.

$$\frac{\text{Uptime}}{\text{Uptime + DART}}$$

5. **Assets**. Assets describe the physical resources available to provide logistics support. It is a ***Supporting Unit*** metric. The metrics used for the EV will not follow the metrics proposed by the OA document. Metrics will be used to evaluate personnel, facilities, capital equipment, and inventory. **Asset Utilization** is the Tier 1 metric.

Asset Utilization = (Maintenance Asset Utilization, Supply Asset Utilization, Transportation Asset Utilization)



5.1. Moving 2nd echelon maintenance to the intermediate level will allow supporting units to use maintenance resources more efficiently and will improve **Maintenance Asset Utilization**. It is a percentage calculated as a non-weighted average as shown in the following formula:

$$\frac{\text{Personnel Utilization + Workspace Utilization + Equipment Utilization}}{3}$$

5.1.1. **Maintenance Personnel Utilization**. This measure is used to provide an understanding for the amount of time maintenance Marines spend doing maintenance activities. It is calculated as follows:

$$\frac{\text{Total Hours Spend on Maintenance}}{\text{Total Work Hours Available}}$$

5.1.2. **Maintenance Workspace Utilization**. This metric shows the amount of space available to perform maintenance at any generic location. It is calculated as follows:

$$\frac{\text{Total SQFT of space used}}{\text{Total SQFT of space allocated}}$$

5.1.3. **Maintenance Equipment Utilization**. This metric evaluates the amount of equipment being used to perform maintenance compared to the amount of equipment available. It is calculated as follows:

$$\frac{\text{Total amount of equipment used}}{\text{Total amount of equipment O/H}}$$

5.2. Supply function consolidation will allow supporting units to use supply assets more efficiently and will improve **Supply Asset Utilization**.

$$\frac{\text{Personnel Utilization + Warehouse Space Utilization + Inventory Utilization}}{3}$$

5.2.1. **Supply Personnel Utilization**. This measure represents the number of supply Marines on-hand, and the amount of time they spend accomplishing supply tasks. It is calculated as follows:

$$\frac{\text{Total Time Spent on Supply Tasks}}{\text{Total Time Available Based on ASR/SG}}$$

5.2.1.1. **Supply Personnel Manning**. This metric represents the percentage of supply Marines on-hand versus what is stated on the ASR and staffing goal figures.

$$\frac{\text{Total Number on Marines O/H in Supply MOS}}{\text{Total Marines in MOS - Manning}}$$

5.2.1.2. **Supply Personnel Time Utilization**. This metric represents the percentage of time supply Marines spend doing supply related tasks.

$$\frac{\text{Total Time Spent on Supply Tasks}}{\text{Total Time Available Based on O/H}}$$

5.2.2. **Supply Warehouse Space Utilization**. This measure evaluates how warehouse space is being used for product support. It is calculated as follows:

$$\frac{\text{Total SQFT of warehouse space used}}{\text{Total SQFT of warehouse space available}}$$

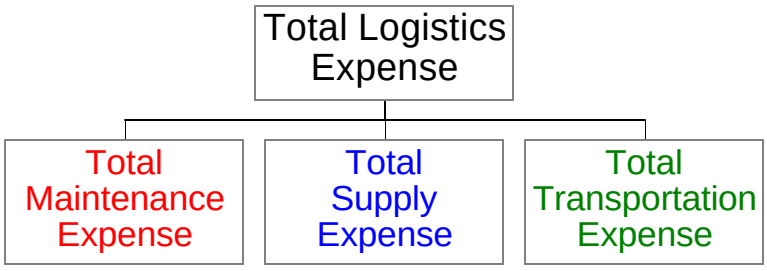
5.2.3. **Inventory Asset Utilization**. TBD

5.3. The MAGTF Distribution Center concept will allow more efficient use of transportation assets and will improve **Transportation Asset Utilization**.

$$\frac{\text{Total Transportation Hours}}{\text{(Hours Available per Truck)*(\# Trucks Allocated)}}$$

***This metric assumes that each vehicle allocated for use has the certified drivers required for the mission.

6. **Expenses**. Logistics chain expense metrics are designed to measure all expenses incurred in the planning and execution of the logistics system. For the EV, expenses must be captured to reflect how organizations apply financial resources to the maintenance, supply sourcing, and distribution efforts. The **Total Logistics Expense** metric will capture these effects at a high level. **Total Logistics Expense** includes three areas: **Total Maintenance Expense, Total Supply Expense,** and **Total Distribution Expense**.



6.1. Moving 2nd echelon maintenance to the intermediate level will impact **Total Maintenance Expense**. This metric considers all financial resources applied to the maintenance effort. It provides an indicator for the amount of budget allocated and used by each maintenance organization for maintenance support.

6.2. Supply function consolidation will impact **Total Supply Expense**. This metric considers all financial resources applied to inventory management.

6.3. The Materiel Distribution Concept will impact **Total Distribution Expense**. This metric considers all financial resources applied to distribution management.

Metric Validation. ILC Center subject matter experts (SMEs) validated the EV metrics throughout the Metric Mapping process. This iterative process included LX defining EV SC metrics in terms of the OA metrics with ILC SME validation at each step. Upon completion of this initial mapping, FSMAO-1 will review each metric definition to assist in reviewing each formula, the appropriate level of detail, and to assist in identifying data sources for collection.

Data Collection. Once data sources are identified for each data element, LX and FSMAO-1 will initiate data requests from appropriate information sources, including development and execution of manual collection tools if required. Once the data is collected, each metric will be calculated and summarized using appropriate statistical analysis techniques at the validated level of detail.

Data and Process Analysis. Process analysis will begin once the data is summarized for each metric. Significant changes or shifts in

metric values will be used to highlight areas in the supported or supporting unit logistics processes where analysis needs to be done to understand the procedural, process, or structure changes made in each unit that effects this shift.

Documentation. The most important outputs from each iterative analysis during the EV are the procedural, process, and structure changes made by EV units to improve logistics support. The analysis of the metrics and these changes will be captured in documentation after each assessment. The document format used for the first assessment will be similar to that used to document the Mid Term POC Assessment. This format may change throughout the course of the EV as analytical requirements are tailored to the ILC Center and decision maker requirements.

Assessment Frequency. EV assessments frequency will be based on the needs of the ILC Center and appropriate decision makers. Three assessments and associated time periods have been identified for the beginning of the EV. The frequency of the remaining assessments will be determined after the third assessment is complete. The first three assessments and general time periods are:

- A baseline of the 6th Marine Regiment workload and logistics support performance (due 31 October 2002)
- A "Quick Look" assessment of the supported and supporting units using the EV Scorecard. (due during December 2002)
- An assessment and comparison of units participating in the Winter 2003 Combined Arms Exercises (due during April 2003)

Annex C
EV
OA Operators Handbook

DESCRIPTION.

This document is published in place of a traditional Annex C. The Marine Corps is looking at logistics differently than it ever has and the intent of this document is to provide background and instruction in a unique manner.

a. Participants in the EV will use this document as the roadmap for organizing, implementing, and executing the OA under the EV. An OA serves as the TTPs (business rules) to conduct integrated logistics chain support. Another way to describe the OA is a description of tasks, activities, operational elements, and information flows required to accomplish or support Marine Air Ground Task Force (MAGTF) operations.

TRANSLATION.

During the re-engineering of the logistics chain CSS functions, the Marine Corps chose to work closely with commercial and DoD entities. A terminology difference between military services and commercial entities quickly surfaced that required translation for military puposes. This document attempts, when possible, to *"green"* those concepts and terms.

BACKGROUND

The Marine Corps has traditional categorized its logistics chain into the six functional areas of CSS:

Supply

Maintenance

Transportation

General Engineering

Health Services

Other Services.

Logistics systems, plans and orders historically address each functional CSS area. Logisticians in peacetime, commonly discuss support requirements and concepts in terms of the individual CSS functional areas. However, while each logistics functional area is essential in all functions must be integrated into the overall logistics support of MAGTF operations.

The Marine Corps is planning to accomplish this integration through the application of an integrated logistics chain management theory. This approach includes a fully coordinated

set of related process cycles— including plan, source, maintain, deliver, and return—and are collectively optimized to ensure that materiel and service requirements are effectively and efficiently planned for and executed to the satisfaction of the supported unit. Integrated logistics chain management focuses on satisfying the supported unit requirements first and only then meeting those requirements with the lowest total process cost and efficiency.

Definition.

Department of Defense logistics chain management is an integrated process that begins with planning the acquisition of MAGTF supported unit-driven requirements for materiel and services and ends with the delivery of materiel or services, including the materiel returns segment of the process flow, and required information in both directions among suppliers, logistics leaders, and supported units. (DoD Supply Chain Management Guide, copyright 2000)

MARINE CORPS INTEGRATED LOGISTICS CHAIN MANAGEMENT.

The OA has its basis in the integrated logistics chain (analogous to the commercial term “supply chain”) management philosophy. Integrated logistics chain management manages cross-functionally (e.g. across the functions of supply, maintenance, distribution and engineering) by integrating and managing end-to-end logistics chain processes that ensure consistent fulfillment of warfighting and other MAGTF operational requirements. The extent of the integrated logistics chain is not limited to the span of control of the Marine Corps; it requires collaboration and coordination from the MAGTF warfighter through Department of Defense (DoD) organizations and commercial partners. The emphasis in a logistics chain causes a shift from functional performance and costs to total logistics chain performance and costs.

Most processes and systems optimized for garrison and peacetime operations usually violate a basic tenet of good operational planning—they do not take into account the requirements of a “worst-case” scenario. Garrison logistics chain operations along the full length of the logistics chain are generally conducted in a benign and relatively undemanding environment. The nodes of a garrison logistics chain are largely static in nature and enjoy a robust infrastructure that supports the free flow of information. Alternatively, deployed operations, particularly combat operations, are typified by a highly dynamic, often chaotic nature and occur in a “closed” environment that interrupts the upstream and downstream flows within the logistics chain for product/services, particularly with regard to information or visibility.

This distinction between garrison and forward deployed CSS has framed the concepts and recommendations from the original ILC business case in that context. Unlike supported units, the CSSE of the MAGTF in the future will obtain visibility upstream in the logistics chain with suppliers while simultaneously maintaining an interface through an Order Management System (OMS) with the ultimate customers-the warfighters. Because the CSSE functions as the "logistics bridge" between the warfighters and the rest of the logistics chain, the CSSE is the "critical link" because it links the warfighters in the area of operations with the upstream logistics chain flows. The CSSE provides the critical connection through the establishment of Service Level Agreements (SLAs) and demand management philosophy that ensures product/service fulfillment of supported unit demands. The requirement to maintain continuity of the logistics chain will rest largely on the shoulders of the MAGTF's CSSE. Furthermore, the responsibility for planning and executing the lion's share of MAGTF CSS will also rest with the CSSE. This allows the MAGTF Commander the ability to realign logistics resources based on his priorities in order to maximize combat power.

Integrated Logistics Chain Characteristics.

Segment supported units based on service needs. Traditionally the logistics chain provides the supported MAGTFs the same level of service regardless of mission. The logistics chain of the future must have the flexibility to distinguish between those deployed, those in the beginning of the work up cycle, and those in a garrison environment. The logistics chain must be able to tailor its CSS (products/services) to each separate MAGTF's mission. The following are characteristics that are found in a successful integrated logistics chain:

Customize the logistics network. When designing the logistics network, the focus of main effort is on the service requirements and operational missions of the MAGTF.

Listen to demand signals and plan accordingly. Operations and consumption planning must span the entire chain to detect early warning signals of changing demand and ordering patterns, MAGTF missions, and so forth. A demand-intensive approach leads to more consistent forecasts and optimal resource allocation. By applying best inventory management practices utilized by the commercial best-in-class companies, the Marine Corps under the ILC program will dramatically improve the Service level Agreements (SLAs) for the supported unit while at the same time providing additional funds, through inventory draw-down and cost aviodance.

Differentiate product and service closer to the supported unit. The Marine Corps can no longer afford to stockpile inventory to compensate for forecasting errors and uncertainty. Excess inventory occupies space that can best be used to bring combat power to the battlefield. Differentiation of sources of supply and services allow planners to develop strategies (Quadrant Model, ABC inventory management, etc.) that provide consistency in the level of support to each MAGTF. The Marine Corps generally manages materiel within various classes of supply without regard to its end item application or original use requirement. However, the commercial best practice is to focus on the end item priority and manage the individual parts accordingly. Today requisition to order receipt cycle times in the Marine Corps is measured in days and weeks, while the best in class commercial companies use hours as their measurement of success. Today the Marine Corps uses one logistics chain to manage all its materiel while the commercial best practice is to develop separate logistics chains based on criticality of need for that materiel.

Strategically manage sources of supply and services. By working closer with key suppliers (i.e. Defense Logistics Agency, Caterpillar, Staples, etc.) the Marine Corps can reduce total ownership costs.

Develop logistics chain-wide technology strategy. Information technology must support multiple levels of decision-making; through a clear view of the flow of products, services, and information through the integrated logistics chain.

Adopt channel-spanning performance measures. Effective logistics chain measurement systems do more than just monitor internal functions. They adopt measures that apply to every link in the logistics chain; from supplier's supplier to supported units supported unit.

Demand Management

Demand management may be thought of as focused efforts that estimate and manage a supported unit's demand, with the intention of using this information to shape operating decisions, SLAs, inventory categories and their location in relation to the warfighter. The essence of demand management is to further the ability of organizations to collaborate inventory levels and distribution support that are connected to warfighter demands. Demand information under the ILC program will be used to create collective and realistic service levels of the warfighter future needs and designate who in the integrated logistics chain can provide that inventory and distribution to satisfy demands.

A major component of demand management is forecasting the amount of the materiel that will be demanded by warfighters, where to locate it, how to move it and who will manage it. Although forecasts are made throughout the logistics chain, the single most important forecast is based on the warfighter's demand. In a truly integrated logistics chain, all demands will emanate directly from the primary demand of the ultimate customer-the warfighter.

ORGANIZING FOR THE EXPANDED VALIDATION.

Moving from functional "stove-piped syndrome" to Integrated Logistics Chain Management.

Typically we organize our logistics around the six CSS functions. Organizationally, this fosters the perpetuation of

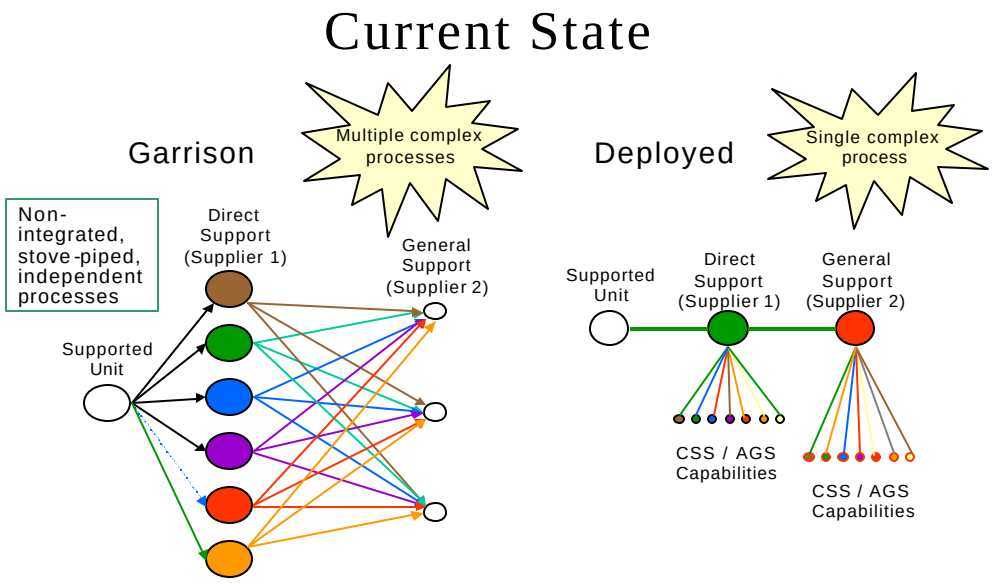


Figure 1: Current State

processes that are function specific and management that is focused on requisitions, repair actions, transportation requests, engineer support, health service support, etc. Enablers (e.g., information technology) are developed for the management and request processes that are specific to the logistics CSS functions. Figure 1 represents the current logistics chain processes. Of note is the difference between how logistics chain support is delivered in garrison environment and when deployed. The diagram of the garrison process represents the many touch points for logistics chain support the supported unit faces after

its organic resources are exhausted. The colored circles represent the six functional CSS areas. The deployed (i.e. CSSD for a CAX, MSSG of a MEU) process provides the supported unit one single point of entry for the delivery of logistics chain support. Generally, the single point of entry manages all the logistics chain support from a centralized operations center. The supported unit need only levy the requirement to that organization. The telling point from this figure is that from a logistics chain perspective, the Marine Corps does not train (garrison) the way it fights.

Perpetuating the lack of coordination and integration in the current logistics chain, both deployed and in garrison, is that logisticians measure their internal processes to improve CSS functional performance. These metrics are not supported unit focused and do not improve the integration between the CSS functions and the overall performance of the logistics chain in support of the warfighter.

Integrated logistics chain management focuses on the performance of the entire chain across each CSS function. To realize the power of managing supported unit requirements cross functionally the logistics provider must fundamentally change roles of the Marines in the logistics chain to deliver logistics chain responsive CSS.

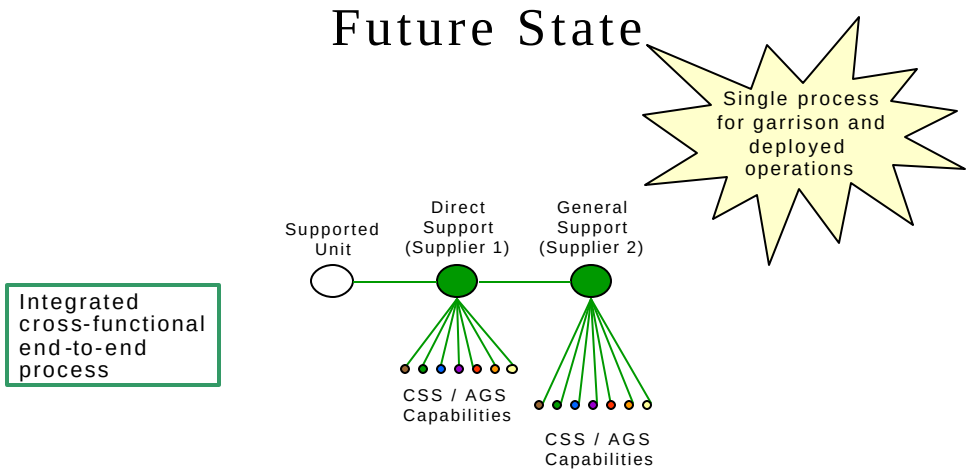


Figure 2: Future State

Figure 2 represents a cross-functional integrated process for the delivery of logistics chain support regardless of MAGTF location. Obviously, this diagram is similar to what we do today to support the deployed MAGTF. Fundamentally the process is the same. However, this process along an integrated logistics chain management, provides support that is supported unit-focused.

The fundamental change in the logistics chain is in shifting the focus of effort from "internal" functional CSS centric to supported unit cross-functional process centric. This change is far reaching in how logisticians look at the roles and skill-sets necessary to plan, manage, and execute the logistics chain.

MAGTF SUPPORTED UNIT CENTRIC ORGANIZATIONS (CUSTOMER-SERVICE OR LOGISTICS CHAIN LIAISON).

Customer service or integrated logistics chain liaison has multifunctional interest for logistics leaders. Customer is an inherently commercial term that for the purposes of this document is interchangeable with the Marine Corps term "Supported Unit". Instrumental to the success of the integrated logistics chain is the ability of the logisticians to provide a customer service or liaison connectivity to the supported unit. These processes ensure supported unit requirements and expectations are met. Without the basics of customer service or integrated logistics chain liaison processes in place, nothing else matters from the supported unit's perspective. There are four basic dimensions of economic value that an integrated logistics chain can add to a product or service:

Time. The time factor generally refers to order cycle time. There are several components that affect time. Products and services must be available the point in time the supported units demand them. This is called time utility or the economic value added to a product or service by having it a demand point at a specific time. For the MAGTF, the time cycle for an order is the request, order transmittal, order processing, order preparation, and order shipping. Remember, the order in the OA is more than just a requisition, repair task, ammunition request, etc. An order includes everything necessary to fulfill the request as a parent/child relationship.

Dependability. Dependability is the dimension that can be more important to some supported units than time. A fixed lead-time will allow the supported unit to minimize inventory. From the service aspect, a dependable delivery allows the service provider to schedule resources to a plan. The elements of dependability are cycle times, safe delivery (undamaged or lost), and correct orders.

Communications. Information flow is instrumental to the success of any logistics chain. In the order information stage, the use of electronic transmittal can reduce errors in transferring order information from the order to the receipt into production or inventory.

Another aspect of communication relative to customer service or logistics chain liaison is actual contact with the supported unit. Communication with the supported unit is vital to monitoring customer service or logistics chain liaison levels relating to dependability. Communication is instrumental in establishing logistics service level agreements (SLA). The SLAs establish the rules by which the integrated logistics chain can measure its performance and in turn the logistics performance the supported unit can expect.

Further, even though the SLA is the rule, there will be situations when the logistics organization may not hit the target. That is where communications is a two-way street. The integrated logistics chain must communicate to the supported unit in those cases, which allows the supported unit to recalibrate their processes to incorporate the change.

Convenience. SLAs need to reflect the mission of the supported units. In a perfect world, all supported units would be created equal and one set of SLAs would apply to all. In a MAGTF that is not the case. The units of the MAGTF are generally in some varying form of preparing to deploy or return from a deployment. The SLAs should be indicative of the supported unit's position in the deployment cycle and the mission or capability they provide the MAGTF.

Measuring Customer Service or Integrated Logistics Chain Liaison.

The four dimensions of customer service or logistics chain liaison are the underlying basis for establishing standards of performance of the integrated logistics chain. The performance measurements in use today are not necessarily in the best interest of the supported unit. Those performance measurements demonstrate how well the logistics chain CSS providers perceive their performance. But the performance measurements important to the supported unit are:

Orders received on time;

Orders received complete;

Orders received damage free; and

Orders billed accurately

Meeting the supported unit's SLA and expectations requires new roles in the logistics chain organization foster help integration and focus on the supported unit.

OPERATIONAL ARCHITECTURE ROLES

The OA will introduce roles that are no longer internally or functionally CSS focused, yet create the coordination and integration necessary to manage, from a "supported unit focused perspective", the supported units orders. Instrumental to integration is the ability to manage a logistics chain cross-functionally and manage requirements from a beginning-to-end perspective. The following provides description of the OA roles for the integrated logistics chain:

Request Management (RM) - Function of generating, approving, and submitting demands for products and/or services.

Request management is usually performed at the supported unit where the demand is generated, validated, prioritized, and consolidated with supported unit requirements. The order is sourced internally if possible; and if not possible submitted to the Order Manager of the supporting CSSE via the OMS. RM is a uniquely USMC logistics chain OA process. Commercial industry is not able to interact at this level with the supported unit by law. Generally, the request or order for a Battalion/Squadron, Regiment/MAG will usually be generated from within that organization's S-4.

Request management is a process that is unique to the Marine Corps. Commercial industry does not use such a process since they have no direct control of their customers. Commercial industry does use some of the principals, such as requiring little if any user training and requiring minimal technical knowledge, and simplified approval. The RM process provides the Marine Corps much more. Using this process step, the integrated logistics chain can begin to bundle the entire supported unit's requirement to form an order. Today the mechanic enters tasks to work orders and supply clerks identify requisitions, etc. The RM process identifies to the logistics chain network that there is an immediate demand that requires attention. Today, the health of a principle end item (PEI) is not known until the mechanic formally enters the work order. The use of this process is limitless because of the data capture capability.

Supplier 1 (S1) - This portion of request management is the initial interface to S1 (supporting CSSE). Request management

begins the communication or requirements identification for fulfillment (and other purposes, i.e. identifying un-funded requirements) by the integrated logistics chain; initially this begins with the Battalion or Squadron. Moreover, this also begins the customer service or the integrated logistics chain liaison interface with the consumer. Performance measurements of the basic dimensions of customer service or integrated logistics chain liaison begin here.

Order Management (OM) - Function of receiving, routing, coordinating, and tracking supported unit orders through to fulfillment, providing feedback and coordinating Service Level Agreement's (SLA's) with the supported unit. Order management will be performed at the supporting CSSE headquarters.

Order Manager - Serves as the supported units' single point of entry into the integrated logistics chain. The Order Manager is responsible for receiving and processing supported unit requests, routing orders to appropriate CSS capacity manager(s), coordinating fulfillment with capacity manager(s), and communicating order status back to the supported unit. The Order management process is the responsibility of the Headquarters of supporting CSSE.

Order management changes how the integrated logistics chain in the Marine Corps fulfills a supported units requirement. When a supported unit requires a product or service from the logistics chain today they piecemeal the parts of the orders to the logistics functional CSS stovepipes to fulfill that requirement (see figure 1). Under the ILC OA, the order manager is a single point of contact within the integrated logistics chain that will act on the supported unit's behalf to coordinate fulfillment for all aspects of its order. An example utilizing this concept would be a requirement to support a supported unit's familiarization fire for its T/E weapons. Using a parent/child relationship, the parent order would be a request to range fire T/E weapons and the children orders are all the various related lower tier CSS orders that are required when a supported unit needs to go to the weapons range (i.e. support for transportation to and from the range, food at the range, medical support, weapon limited technical inspections, range coordination with SE, and ammunition transported to the range). Unlike today, the entire requirement under the OA and the integrated logistics chain concept is managed by the CSS provider for the supported unit.

Capacity Management (CM) – The function of planning, managing, optimizing, and prioritizing resources and capacity to fulfill the supported unit demands.

Capacity management will be conducted by the supporting CSSE. Capacity managers from the various CSS functional areas within that CSSE (i.e., supply, maintenance, transportation,

etc.) will plan, prioritize, and ensure all resources at their disposal are allocated and employed most effectively to support the MAGTF mission. They optimize capacity within a particular CSS functional area (inventory, maintenance, transportation, etc.) and are responsible for allocating capacity and capability to supported unit orders, maintaining visibility of capacity and capability, and reporting status of capacity and capability to OM. The CSS capacity managers will ensure the order manager has the ability to integrate, coordinate, and communicate all the capacity that exists in the CSS functions across the MAGTF.

Inventory Capacity Manager (ICM) - Plans, manages, optimizes, prioritizes, and allocates inventory capacity and resources (e.g., inventory, warehouse capacity, money, and personnel) to best fulfill supported unit demands for products and those products associated with completing a service (e.g., maintenance). The ICM is responsible for controlling and understanding the inventory capacity for all types of supply (product).

Distribution/Transportation Capacity Manager (DCM) - Plans, manages, optimizes, prioritizes, and allocates distribution and transportation capacity and resources (e.g., transportation assets, drivers, distribution facilities, materiel handling equipment, and third party distribution agreements) to best fulfill supported unit demands for transportation services, for product distribution, and for transportation required to fulfill other services. In the future the DCM will manage all distribution capacity that includes MAGTF organic, transportation management office, contract, and aviation. Today there is no single capacity manager for the MAGTF of the distribution capacity.

Maintenance Capacity Manager (MCM) -Plans, manages, optimizes, prioritizes, and allocates maintenance capacity and resources (e.g., mechanics, tools, maintenance bays, outsourcing arrangements) to best fulfill supported unit demands for maintenance services. Today the Maintenance Operations Section (MOS) has the capability to manage the capacity organic to the Maintenance Battalion. In the future, the MCM will have incurred resource visibility and plan for the optimal use of all maintenance capacity within the MAGTF.

Procurement Capacity Manager (PCM) - Plans, manages, optimizes, prioritizes, and allocates procurement capacity and resources (e.g., contracting officers, government credit cards, purchase agreements, etc.) to best fulfill supported unit demands that need to be fulfilled from external (commercial) sources.

Engineer Capacity Manager (ECM) – Plans, prioritizes, optimizes capacity, and allocates engineer capacity and resources (e.g., mobility, counter mobility, survivability, expeditionary

engineering, bulk liquids storage/production, hygiene, power production/distribution, etc.) to best fulfill supported unit demands for CSS engineering.

Health Services Capacity Manager (HSCM) –Plans, manages, optimizes and allocates health services support capacity and resources (e.g., health care providers, medical materiel) to best fulfill supported unit demands for force health protection, casualty and disease non-battle injury (DNBI) medical care, patient transportation/evacuation, and preventive medicine services. The OA HSCM will have visibility of and plan for the optimal allocation of all health services support capacity within the MAGTF

Production/Operations Management (PM) - Function of coordinating, planning, tasking, and controlling how supported unit demands are fulfilled.

The Production/Operations Manager plans and controls his or her respective CSS execution. The Production/Operations Manager is responsible for applying and assigning capability and resources to fulfill supported unit orders, maintaining visibility of orders, reporting order status to the order manager (through the respective CM's), and reporting the status of resources within their domain to respective CSS CM's. The role of production/operations management is primarily the responsibility of the commander/OIC of the subordinate functional CSS organization that executes fulfillment such as the CO of General Support Maintenance Company, or OIC of the ISSA but is probably delegated to subordinate leaders/supervisors (e.g., Maintenance Chief).

Inventory Production/Operations Manager (IPM) - Plans and controls inventory execution. The IPM assigns supply personnel and applies resources to fulfill demands for products. The IPM maintains visibility of orders and reports status to the OM. The IPM maintains visibility of supply resources and reports status of to the ICM. This equates to the General Account officer of the Intermediate Supply Activity responsibilities today.

Distribution/Transportation Production/Operations Manager (DPM) - Plans and controls distribution and transportation execution. The DPM tasks distribution and transportation personnel and applies resources to distribute products and provide transportation services. The DPM maintains visibility of product distribution and transportation service orders and reports status to the OM. The DPM maintains visibility of distribution and transportation resources and reports status of to the DCM. Today, these duties occur at the supported unit motor pools.

Maintenance Production/Operations Manager (MPM) - Plans and controls maintenance execution. The MPM tasks maintenance personnel and applies resources to fulfill maintenance services. The MPM maintains visibility of maintenance service orders and reports status to the OM. The MPM maintains visibility of maintenance resources and reports status to the MCM.

Procurement Production/Operations Manager (PPM) - Plans and controls procurement execution. The PPM tasks procurement personnel and applies resources to fulfill supported unit demands from external (commercial) sources. The PPM maintains visibility of supported unit orders and reports status to the OM. The PPM maintains visibility of procurement resources and reports status to the PCM.

Health Services Production/Operations Manager (HSPM) - Plans and controls health services support execution. The HSPM tasks health services support personnel and applies resources to fulfill health services support. The HSPM maintains visibility of health services support orders and reports status to the OM. The HSPM maintains visibility of health services support resources and reports status to the HSCM.

Engineer Production /Operations Manager (EPM) – Plans and controls engineer services support execution. The EPM tasks engineer services support personnel and applies resources to fulfill engineer services support. The EPM maintains visibility of engineer services support orders and reports status to the OM. The EPM maintains visibility of health services support resources and reports status of to the ESCM.

Execution/fulfillment (E) - Function of executing CSS tasks to fulfill supported unit demands. The Executor(s) receives tasks from their respective PM's, executes specific tasks to fulfill supported unit orders, and provides execution status back to their respective PM's.

Inventory Executors (IE) - Receives tasks from IPM, executes specific supply/inventory related tasks to fulfill supported unit orders for products, and provides order status to IPM.

Distribution/Transportation Executors (DE) - Receives tasks from DPM, executes specific distribution and transportation related tasks to provide distribution and fulfill supported unit orders for transportation services, and provides order status to DPM.

Maintenance Executors (ME) - Receives tasks from MPM, executes specific maintenance related tasks to fulfill supported

unit orders for maintenance services, and provides order status to MPM.

Procurement Executors (PE) - Receives tasks from PPM, executes specific procurement actions to fulfilling supported unit orders for products and services from external (commercial) sources, and provides order status to PPM.

Health Service Executors (HSE) - Receives tasks from HSPM, executes specific health services support related tasks to provide health services support and fulfill supported unit orders for health services support, and provides order status to HSPM.

Engineer Service Executors (ESE) – Receives tasks from ESPM, executes specific engineer services support related tasks to provide engineer services and fulfill supported unit orders for engineer services support, and provides order status to the ESPM.

An example of how to apply the roles in the OA and the parent/child relationship discussed above is to look at the weapons training evolution again. The S-4 of today's infantry battalion has to assume the order manager, capacity manager, and production manager roles and also coordinate with as many as four or five CSS and other organizations to schedule, organize and execute the training.

In the future under the integrated logistics chain, the supported unit need only identify the nature of the training evolution, "9mm FAM fire, for fifty Marines on this date with appropriate CSS requirements." From that supported unit request, the CSS order manager creates the "parent" order of 9mm FAM fire and works with his or her appropriate functional CSS capacity managers to determine availability to promise from their respective CSS "child" orders. The child orders for example could consist (based on the supported unit request) of calculating transportation requirements, calculating chow requirements, calculating ammunition, and then informing the supported unit the order is in process and then confirm the date and pick-up point. This same concept is applicable whether the request is for a broken 5-ton, building a bunker, or a training exercise at Fort Bragg.

ORGANIZING FOR MAGTF LOGISTICS CHAIN INTEGRATION AND EXECUTION.

Today, CSS activities are scattered throughout the MAGTF. The management of these activities have been marginally effective because there is no built-in mechanism in order to assure that there is integration (ebb and flow of resources) and coordination (unity of effort) in order for a MAGTF Commander to make truly optimal operational decisions.

The OA emphasizes a process-based structure in order to manage a broad group of logistics chain CSS activities as a "value-added chain." The focus of main effort for this strategy is to achieve an effective and efficient integrated logistics chain. There are five process types in the OA flow: plan, source, make, deliver, and return. The three logistics processes that form the integration to these process types are the order management process, the replenishment process, and the process for developing an integrated production and distribution strategy. The key element here is that the integrated logistics process must emphasize horizontal process flow, which consequently creates a seamless service delivery system. In essence, the product of the logistics organization is the value-added service provided to the MAGTF warfighter.

Managing the three process types incorporates the new roles introduced above. Figure 3 below is a high-level decomposition of these OA roles and their relationships from the supported unit to S1. Further, the OA illustrates the one point of entry for the supported unit to use for logistics chain fulfillment. That one point becomes the coordinator for all orders that the supported unit submits. The single point provides coordination and integration for the CSS functional areas to satisfy the supported unit's "parent order".

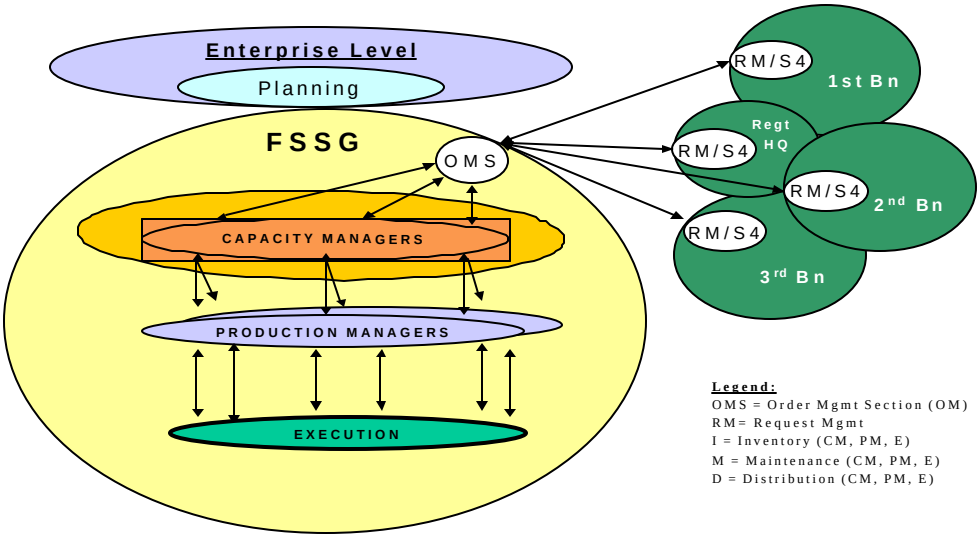


Figure 3: Mid-Level Role Diagram

The single point of entry for the supported unit in Figure 4 and 5 below is the CSS order manager. The order manager manages the parent order and its associated child suborders through their respective CSS functional CM's. The order manager's responsibility is to manage the complete order on behalf of the supported unit. As previously mentioned an order may be more than a single action. It's a parent/child relationship that may span multiple CSS functions. The OA CSS functional roles (i.e., capacity and production mangers) manage "child" or sub-components to the "parent" order while the order manager manages the parent order. This differs from today where the CSS functional managers process their own requisitions, maintenance actions, transportation requests, etc, by themselves. Under the OA, the order manager coordinates the fulfillment of the "parent" order and establishes delivery dates of the order based off the input (capable to promise) from the respective CSS functional capacity managers. The order manager is the "single face" to the supported unit and manages the supported unit's expectations and requirements. In addition, the order manager manages established SLA's.

Taking OA one step further, Figure 4 and 5 begin to further decompose the roles and associate them to a notional organization (the organizational structure may evolve with the complete implementation of the OA).

Figure 4 depicts the role of the order manager. The Unit Support Center (USC) performs the order management function. In order to be effective, the USC must apply the principles of customer service or logistics chain liaison discussed earlier in this documentation. Some of these principles tailor the SLA to each supported unit. The supported unit representatives within the USC will be familiar with the mission, Training Exercise and Employment Plan (TEEP), and the unit's T/O&E in order to effectively manage the orders from those supported units.

Further, Figure 4 decomposes current organizations into the remaining roles of the OA. CSS capacity management may or may not be centralized as part of the Combat Service Support Operations Center (CSSOC). Figure 5 is a decentralized representation of capacity management. The role of the order manager does not change; the diagrams represent the task organization possibilities based on mission and location.

Both diagrams place production management and its execution in the functional CSS battalions of today. At that level the activities of turning wrenches, building bunkers, delivering health care, etc. are similar to today.

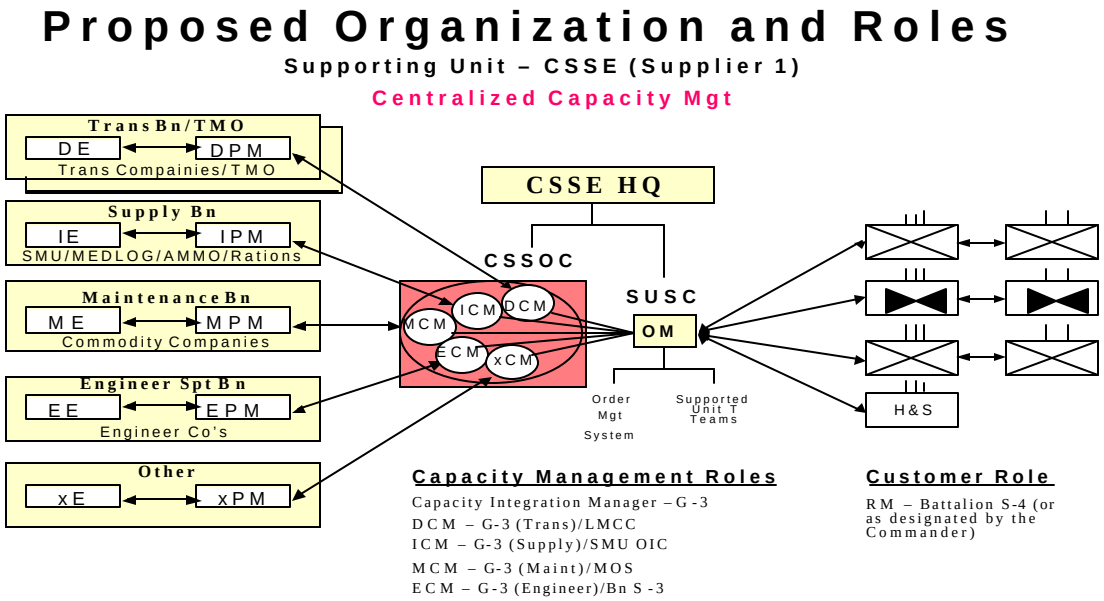


Figure 4: Proposed Organization and Roles (Centralized)

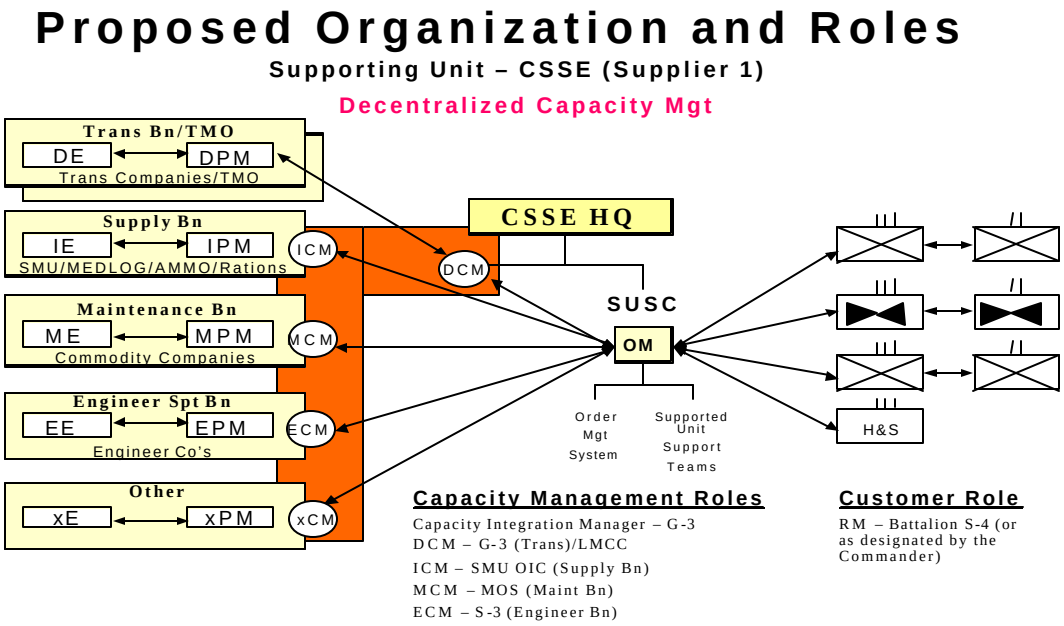


Figure 5: Proposed Organization and Roles (De-Centralized)

WHAT DOES THIS MEAN TO THE SUPPORTED UNIT?

The roles at the supported unit also change under the OA. As a requestor, the supported unit needs to have an understanding of their fundamental requirement. Supporting units participate in the chain as demand generators. The request management process

flow has two purposes. The first purpose is to simplify the supported unit's process to identify requirements. The second purpose is to introduce the logistics organization into a supported unit support role that assists the supported unit and develops relationships, sets expectations, and negotiates SLAs with the supported unit.

Today the logistics chain requires the supported unit to have a detailed understanding of who, what where, when, and how CSS support will be provided. That understanding includes training in each functionally developed application or manual process required to register that demand with the supporting CSS organizations. Figure 1, reflects this process.

ORGANIZATIONAL DISCUSSION

CSS functions and capabilities will be realigned to support the end-to-end processes defined within the OA. The benefit of this realignment will be the supported unit within the MAGTF. The CSSE, itself, will be more robust, capable and flexible in its ability to support and sustain the MAGTF.

FSSG Standing Battalions. The function-based battalion organization of today's FSSGs may or may not be dramatically restructured into standing, functionally composite units. Even assuming the continuation of function-based battalions, there will still be dramatic reorganization of the CSSE because of the increased scope of its responsibilities and capabilities.

Combat Service Support Detachments (CSSDs). Whatever the standing organization, the CSSE commander may establish tailored (task organized) CSSDs, as required, to provide direct/general support to selected units of the MAGTF. The composition and capabilities of each CSSD will be dictated by the situation. Resources will ebb and flow between CSSDs, as directed by the CSSE commander through his C^2 agencies, in order to support the requirements of the MAGTF commander. Although establishment and disestablishment of CSSDs will be situational dependent, typically, they will be established to support MAGTFs.

LOGISTICS/CSS COMMAND AND CONTROL.

Command and control organizations and procedures within the MAGTF will be largely as they are today with the exception of the CSSE. The CSSE's C^2 will be more robust in both structure and capabilities in order to execute its increased responsibilities.

To ensure continuity of support and minimize operational disruption, CSSE C^2 organizations and procedures will be largely the same in composition and operation as those employed in garrison. Habitual relationships that exist between elements of the CSSE and its supported units in garrison will carry over into

deployed operations to ensure continued familiarity with the supported units' requirements and methods.

Combat Service Support Element (CSSE). The CSSE will conduct C^2 for ground–common CSS and is accountable to the MAGTF Commander for sustaining the force. The CSSE will exercise command and control over its subordinate units through its Combat Service Support Operations Center (CSSOC). The CSSOC will function much as it does today but will have expanded planning and operational responsibilities. At the same time, many of its current detailed CSS provided to the supported unit will be shifted to a new, more focused and responsive C^2 entity, the USC, and its sub-elements, Unit Support Teams (UST), Materiel and Readiness Liaison (MRLN) Teams, and supported unit Technical Representatives (TR). These CSS C^2 agencies are described below.

Combat Service Support Operations Center (CSSOC). From the CSSOC, the CSSE commander will conduct future operations planning and current operations oversight and control. The CSSOC will be to the CSSE commander what the Tactical Air Command Center (TACC) is to the ACE commander or the Combat Operations Center (COC) is to the GCE commander.

The CSSOC will be the tactical nerve center of the CSSE. Within guidance issued by the commander through his battle staff, it will "fight" the CSSE. It will provide the capabilities necessary to integrate, coordinate, and direct CSS operations in support of the MAGTF.

The CSSOC will plan and direct the mission taskings and manage the ebb and flow of CSS resources among the subordinate commands through a "CSS Tasking Order" (CSSTO), the CSS equivalent of the ACE's Air Tasking Order (ATO).

The CSSOC will control the maneuver of the CSSE's subordinate commands on the battlefield and oversee the provision of support to the CSSE's supported units.

The CSSOC will interface with and oversee the CSSE subordinate commands and C^2 agencies, and will coordinate with the current operations and future operations cells within the other elements of the MAGTF, higher supporting commands (e.g., MLC and MATCOM), and equivalent staffs in other components in joint operations.

The CSSOC will not normally exist as a separate entity in garrison, nor will it have a "fixed" organizational structure. As with current practice, the CSSOC will be "task organized" from within the standing principle and special staff sections and subordinate commands of the FSSG/CSSE to meet specific mission requirements.

Unit Support Center (USC). The USC under the control of the order manager will be the CSSE's principal point of contact/interface with its supported units. It is important to note that the USC will also be the supported units' sole point of contact with the entire logistics chain. The CSSE will deal with the upstream nodes on behalf of the supported unit.

The USC will be a cross-functional C^2 logistics chain liaison agency, subordinate to the CSSOC, whose expertise and focus of effort will be on anticipating, receiving, validating, entering, managing and fulfilling supported unit support demands. It will be, to the CSSE commander, roughly what the Direct Air Support Center (DASC) is to the ACE commander and the Fire Direction Center (FDC) is to the artillery commander.

Unlike the CSSOC, it will be a standing organization within the CSSE headquarters and will perform essentially the same roles in deployed operations as it does in garrison. The USC will ensure continuity of supported-supporting relationships between the CSSE and its supported units whether in garrison or deployed operations.

The USC will consist of an appropriate OIC/SNCOIC, a management section, and dedicated Unit Support teams (UST's). The CSSOC will coordinate the activities of the SUSC through its management section. The management section will oversee and control the activities of the SUST and will maintain a close interface with the Administrative and Logistics Operation Centers (ALOC's)/Aviation Ground Support Operation Center (AGSOC) of the other elements of the MAGTF, when established, or through their G/S-4's, when not.

Unit Support Teams (USTs). The USC will be comprised of a number of cross-functional UST's, each having a permanent relationship with its supported unit(s).

UST's will manage all support requirements to their supported units across the spectrum of CSS, from inception to completion. The UST's will also provide supported unit's planning/requirements forecasts, via the SUSC management section, to the CSSOC to aid in the development of the CSSE's CSSTO.

The USTs will provide dedicated support and will maintain habitual relationships with their respective supported organizations; i.e., the UST that supports a regiment in garrison will be the same that supports it when deployed. A sub-set of that same UST will support subordinate commands of that regiment when separately deployed (e.g., a battalion as the GCE of a Marine Expeditionary Unit (MEU)). Likewise, sub-sections of the UST's supporting other supported units of the MEF will deploy to support their units.

In deployed MAGTF's smaller than a MEF, a slice of the USC management section and the composite of UST sub-sections deploy in support of their individual supported units will comprise the USC. Most of the supported unit support/service structures currently resident within the subordinate battalions of the CSSE will be subsumed into the UST's.

Technical Representatives (TRs). One or more technical representatives will be assigned by the USC to each supported unit down to battalion/squadron level.

TRs will be functional/technical subject matter experts (SME's) who are familiar with the products and services being provided and the capabilities and procedures of the providing CSSE.

They will function in similar manner to the Tactical Air Control Parties (TACP's) organic to GCE units. Although organic to the USC, TR assignments to supported unit-units will be relatively permanent (garrison and deployed) to ensure familiarity and continuity with their supported units' methods and requirements.

They will assist their supported units with planning and forecasting, diagnosing/identifying, preparing, submitting, tracking and receiving demands to the USC.

TRs will be under the operational control (OPCON) of their supported unit's logistics sections.

Materiel and Readiness and Liaison (MRLN) Teams. MRLN Teams will be tailored, cross-functional liaison teams with CSS execution capability collocated with their supported unit(s) based on the METT-TS-L of the supported unit.

They will be established when mission, geography, the tactical situation, or other factors necessitate their employment to ensure responsiveness to the supported unit(s). They will routinely be established to assist the staff of any unit for which a subordinate command of the CSSE has been given a direct support mission.

MRLN Teams will consist of expert supporting unit support personnel and necessary communications and automated information management tools/equipment to assist with planning supported unit requirements and fulfilling supported unit demands. The MRLN Teams will be similar in function to the artillery liaison section in the GCE's Fire Support Coordination Center (FSCC). They will provide the same type of expert advice and planning/operational assistance to the supported units' logistics

sections as the artillery liaison team does to their operations sections.

They will also provide a layer of redundancy in C^2 structure to ensure uninterrupted command and control of CSS units and fulfillment of supported unit demands if communications are disrupted or enemy action incapacitates C^2 nodes at higher levels within the CSSE.

MRLN Teams will be under the tactical control (TACON) of their supported units but will remain under the operational control (OPCON) of the CSSE commander.

LOGISTICS/CSS PLANNING AND EXECUTION

Planning. Future planning will be as today. Future operations logistics/CSS planning will be accomplished in much the same way and by the same staffs within the elements of the MAGTF as is done today; however, because of the UST close relationship with the CSSE's supported units at all levels within the MAGTF, the process will be much better integrated. Consequently, the "ebb and flow" of establishing and disestablishing CSSD's, moving resources among the standing battalions and CSSD's, and assigning missions/support relationships will be better integrated and organized as well. The CSSOC will manage the ebb and flow through a CSSTO cycle similar to the ACE's ATO cycle. The USC and its subordinate elements (UST/TR/MRLN) will contribute to that process by actively taking part in supported unit-unit operational and requirements planning. Forecasted requirements developed by the USC, like pre-planned targets, will be prioritized and de-conflicted by the CSSOC (in coordination with its counterparts in the GCE and ACE) in accordance with the MAGTF commander's guidance and MET-T, and published to its subordinate commands for execution.

Operations. Tactical operations of the CSSE will be similar to those today. The CSSOC will "fight" the CSSE with much the same resources and using tools and processes similar to those currently employed. Support operations of the CSSE, however, will be dramatically changed from today. Pre-planned and recurring supported unit demands will be received, processed and managed by the USC. And, supported unit requests will be transmitted directly to the USC (or, alternately, its subordinate MRLN Teams) vice to the unit that will provide the support. Requests for support that are not pre-planned or recurring will be coordinated with the CSSOC for fulfillment instructions, after which, the USCCRC will manage them in the same manner as pre-planned/recurring demands. Preplanned support is any supporting-supported relationship that is included in the CSS Task Order (CSSTO). Recurring demands are typically centered in the CSS sub-function areas of ***supply***, ***maintenance***, and some ***services***,

although pre-planned support in the areas of *transportation*, *engineering*, and *health services* can be recurring.

Mission taskings, such as general support/direct support, and unit assignments, such as attachment, will be employed as they are today in accordance with METT-TS-L. Supply distribution methods (point/unit distribution) will be employed in the same fashion as today, with the exception that the nature of the product needed by the supported unit will be factored in when deciding the method. The higher the mission value of the product, the more likely the unit distribution method will be employed. For this reason and for reasons of greater supported unit focus by the CSSE, more focused core competencies within the MAGTF, etc., unit distribution will be the norm and supply point distribution the exception. Also, equipment maintenance will involve much heavier reliance on contact teams from the CSSE. This greater reliance on distribution of supplies and maintenance services on the battlefield versus embedding CSS capabilities within each organization will have a long-range impact on the make-up of transportation resources within the CSSE. For example, the tactical vehicle fleet will have considerably more drop-van and shop-van variants relative to its current make-up. Other services will be performed much as they are today except for their C^2--all requests for service will be submitted through and managed by the SUSC.